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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,191	12/19/2000	Liang-Chang Dong	ARC 2556N1	7458

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EXAMINER	
SHEIKH, HUMERA N	

ART UNIT	PAPER NUMBER
1615	

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/740,191	DONG ET AL.	
	Examiner	Art Unit	
	Humera N. Sheikh	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-15,17,18 and 24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-15, 17, 18 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of the Application

Receipt of the Applicant's Arguments/Response and the Amendment, both filed 01/09/04 and the Applicant's Arguments/Response, the Amendment and the Associate Power of Attorney (POA) letter, all filed 03/12/04 is acknowledged.

Claims 12-15, 17, 18 and 24 are pending. Claims 12-15, 18 and 24 have been amended. Claims 16 and 19-23 have been cancelled as requested. Claims 12-15, 17, 18 and 24 remain rejected.

The 35 U.S.C. §112 first and second paragraph rejections, the 35 U.S.C. §102(b) rejections and the 35 U.S.C. §102(e) rejections have been *withdrawn* by virtue of the Amendment.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 12-15, 17, 18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong *et al.* (US Pat. No. 5, 324,280).

Wong et al. teach an osmotic system for delivering a beneficial formulation to an environment of use wherein the osmotic system comprises: (a) a capsule; (b) a dosage

amount of a beneficial agent liquid formulation; (c) an osmagent composition; (d) a semi-permeable composition; (e) at least one orifice that communicates with the exterior and the lumen wherein the osmotic system is delivered at a controlled rate. The formulation contains osmoagents (solutes), osmopolymers (hydrogels), various emulsions, oils, immiscible liquids, emulsifiers and the like (see reference col. 7, line 25 through col. 9, line 67); (col. 12, line 48 through col. 13, line 22) and claims.

The osmotic system comprises surfactants, selected from nonionic, anionic and cationic surfactants (col. 13, line 49 – col. 14, line 14). According to Wong *et al.*, the active drugs include steroids, hormonal agents, progesterone, nor-progesterone, drugs that act on hormone systems, reproductive systems and the like (col. 11, lines 40-60).

Wong *et al.* do not explicitly teach 'sustained release' of the dosage form, however they do teach that the osmotic systems release active agents at a *controlled* rate and over a prolonged period of time up to 24 hours (col. 2, lines 21-27 & 62-68). Furthermore, suitable rates of release (i.e., controlled, sustained, immediate) can be determined by one of ordinary skill in the art, through the use of routine or manipulative experimentation to obtain the best possible results.

Claims 12-15, 17, 18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambert *et al.* (US Pat. No. 6,458,373 B1) in view of Wong *et al.* (US Pat. No. 5,324,280).

Lambert *et al.* teach a self-emulsifying drug formulation system whereby the system is used for oral administration of water insoluble or poorly water-soluble drugs, wherein the oil phase with a surfactant and drug or drug mixture is encapsulated into soft or hard gelatin capsules (see reference column 3, lines 45-52); (col. 9, lines 36-55).

Lambert *et al.* teach that the composition includes alpha-tocopherol, a surfactant or mixtures of surfactants, with and without an aqueous phase, and a therapeutic agent, wherein the composition is in the form of a self-emulsifying drug delivery system. The pharmaceutical composition can be stabilized by various amphiphilic molecules, including anionic, nonionic, cationic, and zwitterionic surfactants (col. 3, lines 45-58).

The therapeutic agent can be any compound having natural or synthetic biological activity, is soluble in the oil phase, including peptides, non-peptides and nucleotides and lipid conjugates and prodrugs (col. 6, lines 49-55).

Lambert *et al.* teach that in the self-emulsifying formulation, the oil phase with a surfactant and drug or drug mixture is encapsulated into soft or hard gelatin capsules. Suitable solidification agents include high molecular weight polyethylene glycols and glycerides that can be added to allow filling of the formulation into a hard gelatin capsule at a high temperature. Semi-solid formulations are formed upon room temperature equilibration. Upon dissolution of the gelatin in the stomach and duodenum, the oil is released and forms a fine emulsion with droplets. The emulsion is then taken up in the intestine and released into the bloodstream (col. 9, lines 36-55).

The emulsion formulations comprise an array of surfactants and additives (col. 10, lines 5-27). The examples demonstrate various emulsion processes and their results (col. 10 through col. 23).

Lambert *et al.* are deficient only in the sense that they do not explicitly teach an expandable layer formed of an osmotic hydrogel and does not teach the capsule characteristics (inner surface, outer surface, semi-permeable membrane).

Wong et al. teach an osmotic system for delivering a beneficial agent formulation to an environment of use, wherein the osmotic system comprises hydrogels, also known as osmopolymers, and also teaches an inner capsule wall, an outer capsule wall and a semipermeable wall or membrane (see reference column 3, line 45 through col. 4, line 13); (col.8, line 48 through col. 9, line 25).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Wong *et al.* within the teachings of Lambert *et al.* because Wong *et al.* explicitly teach a drug delivery system comprising a capsule that contains the liquid drug formulation and various hydrogels, which serve to provide imbibition properties and swell in water and biological fluids and Lambert *et al.* teach a self-emulsification drug delivery system wherein the drug or drug mixture is encapsulated and filled into capsules. The expected result would be an improved and highly effective self-emulsification system for the delivery of therapeutic agents.

Prior Art made of record and deemed relevant by the Examiner:

Rudnic *et al.* US Pat. No. 5,897,876 (04/1999)

Response to Arguments

Applicant's arguments filed 01/09/04 and 03/12/04 have been fully considered.

Firstly, Applicant argued regarding the 35 U.S.C. §112 first and second paragraph rejections on pages 4 & 5 of Applicants 'Remarks' section. The arguments have been found persuasive in view of Applicant's amendment. Accordingly, the Examiner has *withdrawn* the 35 U.S.C. §112 first and second paragraph rejections.

Secondly, the Applicant argued regarding the 35 U.S.C. § 102(b) rejection of claims 12-15, 17, 18 and 24 (as the rejection is now moot over cancelled claims 16 and 19-23), over Wong et al. (US 5,324,280) stating, "Wong et al. fails to teach a dosage form comprising a self-emulsifying drug formulation comprising a progestogenic steroid."

These arguments have been fully considered and were found to be persuasive by virtue of Applicant's amendment. Accordingly, the 35 U.S.C. § 102(b) rejection has been withdrawn and has been reformulated as a 35 U.S.C. § 103(a) rejection.

Thirdly, the Applicant argued in regards to the 35 U.S.C. § 102(e) rejection of claims 12, 17 and 18 (as the rejection is now moot over cancelled claims 16, 22 and 23), stating, "Lambert et al. (US 6,458,373 B1) fails to expressly or inherently teach a sustained release dosage form. The dosage forms in Lambert et al. are simple capsules that break down after administration to provide a bolus dose. Lambert et al. do not teach a self-emulsifying drug formulation comprising a progestogenic steroid."

These arguments have been fully considered and are persuasive by virtue of Applicant's Amendment. Accordingly, the 35 U.S.C. § 102(e) rejection over Lambert *et al.* has been withdrawn.

Lastly, the Applicant argued regarding the 35 U.S.C. §103(a) Obviousness rejection of claims 13-15 and 24 (as the rejection is now moot over cancelled claims 19-21) over Lambert et al. in view of Wong et al. stating, "The combined teachings of the references have not established a *prima facie* case of obviousness. The combined teachings do not teach or suggest a sustained-release dosage form for the delivery of a progestogenic steroid having all the limitations of claims 13-15 and 24. Wong et al. teaches sustained release dosage forms, but do not teach or suggest a dosage form having a self-emulsifying formulation comprising a progestogenic steroid and does not teach the potential benefits of fabricating a sustained release dosage form that includes a self-emulsifying formulation. Lambert et al.'s teachings describe emulsions and self-emulsifying formulations, however Lambert et al. do not teach a self-emulsifying formulation comprising a progestogenic steroid and a dosage form suitable for sustained release of a self-emulsifying formulation. Lambert et al. do not suggest the protential benefits of creating a sustained-release dosage form that includes a self-emulsifying drug formulation comprising a progestogenic steroid. The combined teachings of Lambert et al. and Wong et al. would not motivate one of ordinary skill in the art to modify the teachings of the references to arrive at the subject matter recited in claims 13-15 and 24."

These arguments have been fully considered, but were not found persuasive. Wong *et al.* teach a 'self-emulsifying' drug formulation since they teach an osmotic system that comprises surfactants (i.e., anionic, non-ionic, cationic) and the Examiner notes that surfactants are well-known emulsifying agents. Therefore, the formulation of

Wong et al. is indeed a self-emulsifying drug formulation. Wong et al. also teach that active agents include for example, steroids, progesterone, hormonal agents and those drugs which act upon hormonal systems, reproductive systems and the like. The 'steroids', 'progesterones' and 'hormonal agents' taught by Wong et al. read on the progestogenic steroids as instantly claimed. As the Applicant admits, Wong et al. also teach sustained release dosage forms. The argument that the "potential benefits of fabricating a sustained release dosage form that includes a self-emulsifying formulation are not taught" is not persuasive since the prior art recognizes the teaching of a formulation comprising similar ingredients in a similar rate of release (i.e., sustained release) and thus the properties and benefits imparted by those particular ingredients in a sustained release dosage form would also be the same. Furthermore, it is not necessary that the prior art teach each and every property associated with a particular ingredient or component, merely that the prior art teach a formulation comprising similar ingredients, with a similar purpose and field of endeavor is sufficient. In this instance, the prior art provides for the teaching of a sustained release dosage form that is self-emulsifying and additionally contains active drugs of steroids and hormonal agents. Moreover, the instant claims are directed to a composition and it is the patentability of the composition or product, which must be established as being patentable.

The Applicant's argument that "Lambert et al. do not teach a self-emulsifying formulation comprising a progestogenic steroid and a dosage form suitable for sustained release of a self-emulsifying formulation and that Lambert et al. do not suggest the protential benefits of creating a sustained-release dosage form that includes a self-emulsifying drug formulation comprising a progestogenic steroid" has been considered but is not persuasive.

Lambert et al. teach a self-emulsifying drug formulation system whereby the system is used for oral administration of water insoluble or poorly water-soluble drugs (see col. 3, lines 46-52). The oil phase further contains surfactants. Examiner notes surfactants are well-known emulsifiers in and of themselves. Lambert et al. do not explicitly teach the specified progestogenic steroid, however, they do teach the use of an active or therapeutic agent in a self-emulsifying drug delivery system. Lambert et al. teach a similarly formulated composition that imparts beneficial effects. Regarding sustained release applications, Lambert et al. in Examples 16 and 19 explicitly teach sustained release of the incorporated drug with improved bioavailability. Furthermore, the term 'sustained release' is a generic term for which the Examiner gives a reasonable broad interpretation for the scope of the claims. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Lambert et al. teach a self-emulsifying drug formulation system whereby the system is used for oral administration of water insoluble or poorly water-soluble drugs. Lambert et al. lack in the sense that they do not explicitly teach an expandable layer formed of an osmotic hydrogel and does not teach the capsule characteristics (inner surface, outer surface, semi-permeable membrane). Wong et al.

resolves this deficiency by it's teaching of an osmotic system comprising hydrogels (osmopolymers), an inner capsule wall, an outer capsule wall and a semipermeable wall or membrane. Ample motivation is provided by the prior art to obtain a sustained release self-emulsifying drug formulation, based on the teachings of Wong et al. and Lambert et al. Hence, the instant invention is rendered obvious and unpatentable over the prior art of record.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Humera N. Sheikh whose telephone number is (571) 272-0604. The examiner can normally be reached on Monday through Friday from 8:00A.M. to 5:30P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page, can be reached on (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

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